

Assessment of Baseline Level of Knowledge and Attitude of Women towards Symptothermal Method as a Strategy to Ameliorate Unmet Need for Family Planning in Kisumu County, Kenya

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ABSTRACT

Background: Unmet need for family planning cuts across various Counties in Kenya. Assessment of knowledge and attitude towards use of family planning method is an important factor contributing to uptake of family planning intervention. This study investigated knowledge and attitude of women towards symptothermal method (STM) as a strategy to ameliorate unmet need for family planning.

Methods: This study adopted community based cross-sectional-design. The participants of the study consisted of women-of-reproductive age 15-49. Random sampling-technique was used to select 396 women that participated and responded to structured questionnaires, which was validated, with an overall reliability coefficient of 0.83. Frequency count, percentage scores, multiple response crosstabs and Chi-square analysis at 0.05 level of significance were used to analyze the data.

Results: Among participants within the age range of 20-39, 221 (56.0%) were not using any contraceptives, the majority, 115 (52.0%) of the participants preferred natural method but lacked the skills/ knowledge needed to use it, followed by 41 (18.6%) who experienced headache whenever they used hormonal-contraceptives. Most, 194 (87.7%) of the participants had very low level of knowledge of STM which was established at (cal. X^2 val. 2.853; p-value, 0.808 @ df, 6) and majority 215 (97.0%) of the participants had very high positive attitude towards STM, established at (cal. X^2 val. 43.351; p-value, 0.002 @ df, 6).

Conclusion: Findings from this study established that most women lack knowledge of STM but showed positive attitude towards wanting to use it, which further led to an intervention study on Symptothermal method.

Keywords: Attitude, Knowledge, Symptothermal Method, Unmet Need

BACKGROUND

The United Nations Global Sustainable Development Goals (SDGs) 3- target 3.7, emphasized the need for the improvement of

women's sexual and reproductive health status, including informing family planning policies and programming [1]. The target 3.7 aims at ensuring that by 2030, there

should be universal access to sexual and reproductive health-care services, including family planning, information and education, together with the integration of reproductive health into national strategies and programs [2]. Being that family planning is an indicator of sexual and reproductive health status, it is therefore imperative to implement a safer family planning technique. The symptothermal method (STM) is a natural family planning method whose technique involves the observation of a woman's cervical mucus secretion and basal body temperature in identifying the fertile days and the absolutely infertile days of a woman's cycle [3, 4]. It focuses on accomplishing women's/couple's intentions of either achieving or preventing pregnancy [5]. The method is highly effective as there is less than one pregnancy per 100 women in a year when it is correctly utilized [6]. It does not involve pills or devices, has no side effects, affordable and involves no medical supervision. Also once trained, a woman or couple usually can begin using symptothermal method at any time [6, 7]. In most parts of the world, device and hormonal contraceptives such as the intrauterine device (IUD) and oral contraceptive pills have been promoted as the best forms for preventing unintended pregnancy [7]. However, most women do not utilize nor want to use these device/hormonal methods of birth control due to associated side and adverse effects as well as religious and cultural reasons which have led to high unmet need for family planning [8, 9]. Unmet need for family planning is the proportion of women of reproductive ages with intentions to space childbearing for at least two years or limit childbearing, but not using any contraceptive method to achieve their needs [10, 11]. These women are at higher risk of unplanned pregnancies and associated consequences [12]. Natural family planning technique as STM provides women with an alternative that is as effective as other methods [7]. Even though STM is available, women with unmet need are not utilizing it

probably because they lack the knowledge and skills needed to do so [13]. Knowledge refers to the information, understanding, skills, and awareness acquired through education or practical experience of a fact or situation while attitude is the way an individual thinks, feels, and predisposed to act towards people and things within the environment [14]. Knowledge and attitude towards utilizing STM therefore, will be influenced by the way women perceive, think, or feel.

Globally, STM method is a well-accepted family planning method across several western cultures and it is seen as being beneficial to couples' self-knowledge, their relationship and satisfaction [15]. Most women have the knowledge that STM is natural, does not involve pills or devices and has no side effects [16]. Some women/couple are aware that utilizing STM requires abstinence during the fertile days in their menstrual cycles if the intention is to avoid pregnancy. They are also aware that STM is cost-effective, strengthens relationship between partners, and enhances sexual and reproductive health [17]. As reported, 75% of women who utilized STM said they were either "satisfied" or "very satisfied" with their frequency of sexual intercourse, 95% of women stated that using STM has helped them to know their body better and 65% of women stated that it has helped to improve their relationships [15]. Majority of the respondents strongly agreed that no chemicals or hormones were important considerations when making decision on the choice of contraceptives which therefore infers that most women/couples prefer natural methods of family planning [18]. Furthermore, many participants reacted favorably to natural family planning as STM because of the user-friendly nature of the method and the attitude of the tutor, which does not involve coercion [19].

In developing countries, more than 200 million women of reproductive age who desire to space or limit pregnancy are not using modern contraceptives, they lack

access to family planning information and effective or safe family planning methods [20]. In Kenya, the unmet need for safe family planning in the Country is 14% for married women and 19% for sexually fecund unmarried women [21]. The identification of attitudes that affect the use of the family planning method by individuals is an important factor contributing to the uptake of family planning intervention [22]. Health related complications have been identified as factors influencing attitude towards non-usage of device/hormonal contraceptives [9, 23]. The main side effects mentioned were weight gain, lack of sexual desire, headache, high blood pressure and disruption of menstrual cycle. Other factors identified were religious and cultural ideology, ineffectiveness, affordability, male partner support and healthcare provider's lack of adequate capacity [24]. Therefore, adopting natural/Fertility Awareness Based Method as STM may appeal to women/couples with these health and related concerns and probably reduce the unmet need for family planning.

In Kisumu County, contraceptive health related complaints among women of reproductive age have been documented which is evident from complaints of most women ranging from hypertension, deep vein thrombosis, inaccessibility to appropriate, effective and timely contraceptives [25]. Lack of safer family planning methods to influence uptake may lead to higher unmet need for family planning which was reported to be 16.4% in the County [21]. These therefore emphasize the need for an alternative safer method of family planning in order to reduce unmet need for family planning in the County. Though the benefits of STM have been proven, no study has been conducted in Kisumu County to investigate the reasons for non-usage of STM to prevent unintended pregnancy and complications of device/hormonal contraceptives, which therefore depicts a gap in knowledge and attitude towards STM. We hypothesized that

women do not have knowledge and positive attitude towards STM. This study therefore was conducted to determine the baseline knowledge and attitude of women towards symptothermal method as a strategy to ameliorate unmet need for family planning in Kisumu County.

METHODS

The study was conducted in Kisumu County. Kisumu County comprises of Kisumu Central, Kisumu East, and Kisumu West sub-Counties. Kisumu County lies between longitudes 33° 20' E and 35° 20' E and latitude 00° 20' South and 00° 50' South. The County is surrounded by the second largest freshwater lake in the World-Lake Victoria. Kisumu County covers approximately 567 km² on water and 2,086km² land area, representing 0.36% of the total land area of Kenya's 580,367km² [25]. The study adopted community based cross-sectional study design. The population consisted of women of reproductive age group 15 to 49. Random sampling technique was adopted. This technique gave each sub-County an equal and independent chance of being selected. Kisumu Central and Kisumu East sub-Counties were selected. Within each sub-county, landmarks within the urban, peri-urban and rural areas were randomly selected and participants were selected randomly. A total of 396 women of reproductive age participated in this study.

The data collection team consisted of three (3) Community Health Extension Workers (CHEWs) and fifteen (15) Community Health Volunteers (CHVs) who worked under the guidance and supervision of the CHEWs. Before the commencement of data collection after obtaining all necessary approvals, the principal investigator (PI) provided adequate training to all team members on the nature of the study and the modalities of data collection. The CHVs identified the women within the sub Counties and households. They collected data using researcher-designed structured questionnaires from these eligible women of reproductive age in households within the

sub-Counties. The questionnaire was validated prior to its use in the study. To determine the reliability of the instrument, the researchers adopted the split-half method. Twenty (20) copies of the questionnaire were administered to women of reproductive age, once, in Kisumu West sub-County which was not part of the selected areas for the study (Kisumu East and Central) but share the same characteristics with the selected areas and respondents for the study. Cronbach's alpha statistics was used to analyze the data collected. A high correlation coefficient of 0.83 was determined which indicated that the instrument was reliable.

The questionnaire elicited information on socio-demographic and vital characteristics, knowledge, and attitude towards STM from respondents. Information collected on socio-demographic and vital characteristics included age range, marital status, religion, occupation, educational level and types of contraceptives being used, and reason if not using any contraceptive, respectively. On knowledge, information on safety, effectiveness, accessibility, and affordability were obtained while on attitude towards STM, information on intentions, opinions/interests, beliefs, and needs were elicited. Thereafter, a pamphlet titled "What do you think of symptothermal natural family planning method", was left with respondents who indicated not using any contraceptive, for the purpose of recruiting potential participants for subsequent training of STM as an interventional study. Every respondent in this category was given a serial number for easy identification of their baseline responses for the subsequent interventional study. The information contained in the pamphlet included knowledge about STM, invitation for the training, duration of the training, inclusion and exclusion criteria for participation, benefit of the study, risk involved and contact information of the researchers.

Data obtained from this study were entered into Microsoft Excel, cleaned, and transferred to SPSS IBM (version 23) for

analysis. Descriptive statistics of frequency count, percentage scores and cross tabulation, were performed to summarize the sociodemographic characteristics and contraceptive types of study participants, multiple response cross tabulation analysis was used to analyze the reasons for not using any contraceptives, while frequency, percentage, mean scores and bivariate analysis of Chi-square test at 0.05 level of significance were used to analysis the baseline level of knowledge and attitude towards symptothermal method (STM) as a strategy to ameliorate unmet need for family planning among women of reproductive age not using any contraceptive. In drawing the decision rule for the analysis, items that scored 1-39% were regarded as very low (VL), 40-49% as low (L), 50-69% as high (H) and 70-100% as very high (VH). For the Chi-square analysis, we rejected the null hypothesis, when the p-value was less than or equal to 0.05, and accepted the null hypothesis when the p-value was greater than 0.05.

Ethical Approval

The study was approved by Maseno University Scientific and Ethical Review Committee (MUSERC) with approval number, MUSERC/01221/23. Research permit was obtained from the National Commission for Science, Technology and Innovation (NACOSTI) with license number, NACOSTI/P/23/25312. The permission to conduct the research and access the health facilities was also obtained from County Government of Kisumu-Department of Medical Services, Public Health and Sanitation. All participants for this study gave their written informed consent before the collection of data.

RESULTS

In Table 1, we summarized the distribution of participants' characteristics based on their age range, marital status, religion, occupation as well as educational level. On age range, age 20-24 constituted the majority, 134 (33.8%) of the participants,

followed by 95 (23.9%) in age group 25-29. Age range of 30-34 and 35-39 also had quite a number, 63 (15.9%) and 66 (16.6%) participants, respectively. The least number was within age range 45-49 as 5 (1.3%) participants. Married women made up the majority, 289 (72.8%) of the study participants, followed by the single women, 100 (25.2%). On religion, Christians made up 93.2% while Muslims comprised 6.5% of

the participants. Majority of the participants regarding occupational duties were unemployed, 134 (33.8%), housewives and those working were 106 (26.7) and 104 (26.2%), respectively. Secondary education was the attained educational level of majority, 231 (53.6%) of the participants, followed by tertiary, 107 (27.0%) and primary, 76 (19.1%).

Table 1: Frequency and percentage scores of participants characteristics (n =396)

Socio-demographic Characteristics	n	%
Age		
15-19	9	2.3
20-24	134	33.8
25-29	95	23.9
30-34	63	15.9
35-39	66	16.6
40-44	24	6.0
44-49	5	1.3
Total	396	100
Marital Status		
Married	289	72.8
Single	100	25.2
Divorced	2	0.5
Widowed	5	1.3
Total	396	100
Religion		
Christianity	370	93.2
Islam	26	6.5
Total	396	100
Occupation		
Working	104	26.2
Trainee/Student	52	13.1
Housewife	106	26.7
Unemployed	134	33.8
Total	396	100
Education		
Primary	76	19.1
Secondary	213	53.6
Tertiary	107	27.0
Total	396	100

Figure 1 shows the types of contraceptives used. Among all women of reproductive age, 221 (56%) were not using any contraceptive, those using the pills were 71 (18%); calendar method, 33 (8%); implant,

26 (7%); withdrawal method, 17 (4%); intrauterine devices, 8 (2%); condom, 8 (2%); injectable, 7 (2%); standard days method, 4 (1%) and the symptothermal method had only 1 (0.3%) participant.

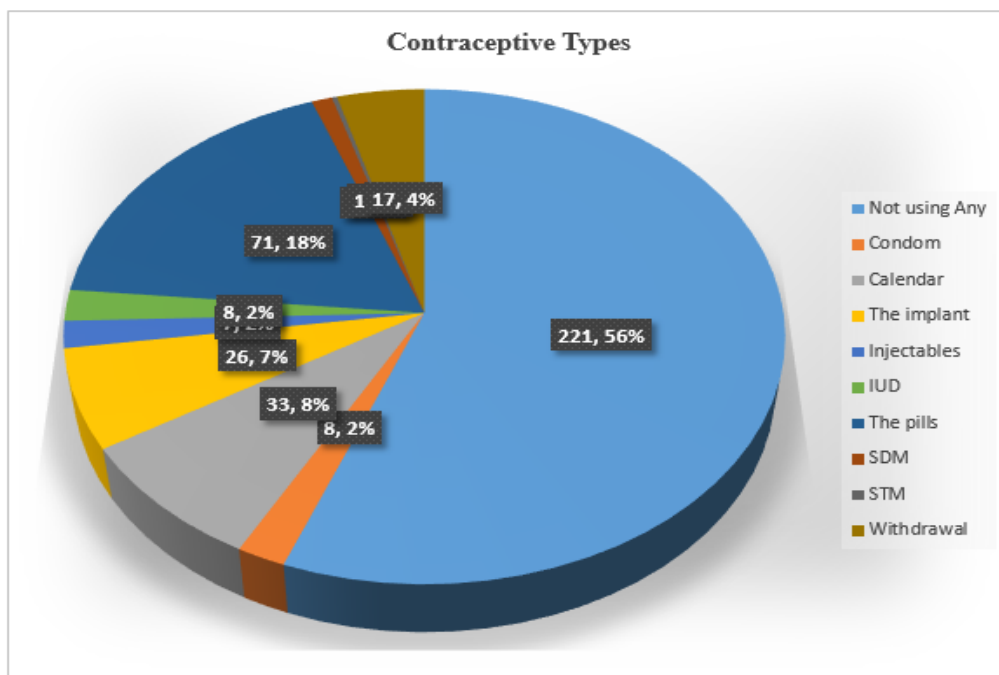


Figure 1: Types of contraceptives used by women of reproductive age

In Table 2, we assessed the association between sociodemographic characteristics and contraceptive types of study participants (n=396). Among women of reproductive age, majority (83) participants falling within the age bracket of 20-24 years were not using any contraceptive, those using the pills had majority (21) participants who were within the age group of 25-29 years, calendar method had 16 participants being the highest users within the age group of 30-39 years, implant had 14 participants as the majority of users within the age groups of 20-24 years, withdrawal method had 7 participants as the highest numbers of users in the age bracket of 25-29 years, intrauterine devices had 3 participants topping the number of users within the age group of 20-24 years, condom had 4 participants within the age group of 35-39 years being the highest users, injectables had 6 participants within the age bracket of 20-29 years as the highest users, standard days method had 2 participants in the age bracket

of 20-24 years being the highest users, and symptothermal method had only 1 participant within the age group of 35-39 years. On marital status versus types of contraceptives used, majority (161) of married participants and 56 singles were not using any contraceptive, followed by 56 married women who were on pills. Regarding religion, most (209) of the participants were Christians, not using any contraceptive while 65 were on the pills. On occupation, majority (70) of the participants were unemployed and were not using any contraceptive, followed by 67 participants who were housewives, 53 who were workers and 31 trainees/students, not also using any contraceptive, while 29 of the participants were on the pills and are in the category of workers. The majority (115) of the study participants were at secondary education level, followed by 60 and 46 participants at tertiary and primary education level respectively, and were not using any contraceptive.

Table 2: Cross tabulation showing the association of socio-demographic characteristics and contraceptive types of study participants (n=396)

Variable	Condom	Not using any (unmet need for FP)	Calendar method	Implant	Injectables	IUD	The Pills	Standard Days Method	Symptothermal Methods (STM)	Withdrawal Method	Total
Age											
15-19	0	6	0	2	1	0	0	0	0	0	9
20-24	1	83	7	14	3	3	16	2	0	5	134
25-29	1	50	5	6	3	2	21	0	0	7	95
30-34	1	33	8	3	0	3	13	1	0	1	63
35-39	4	36	8	1	0	0	15	0	1	1	66
40-44	1	12	3	0	0	0	6	1	0	1	24
45-49	0	1	2	0	0	0	0	0	0	2	6
Total	8	221	33	26	7	8	71	4	1	17	396
Marital Status											
Married	6	161	24	19	4	6	56	3	1	9	289
Single	2	56	9	6	3	2	13	1	0	8	100
Divorced	0	1	0	0	0	0	1	0	0	0	2
Widowed	0	3	0	1	0	0	1	0	0	0	5
Total	8	221	33	26	7	8	71	4	1	17	396
Religion											
Christianity	8	209	29	24	7	8	65	4	0	16	370
Islam	0	12	4	2	0	0	6	0	1	1	26
Total	8	221	33	26	7	8	71	4	1	17	396
Occupation											
Working	1	53	4	7	1	3	29	2	0	4	104
Trainee/Student	1	31	5	2	2	0	7	1	0	3	52
Housewife	5	67	7	8	1	2	11	1	1	3	106
Unemployed	1	70	17	9	3	3	24	0	0	7	134
Total	8	221	33	26	7	8	71	4	1	17	396
Education											
Primary	2	46	9	3	2	2	12	0	0	0	76
Secondary	3	115	19	20	4	5	32	3	1	11	213
Tertiary	3	60	5	3	1	1	27	1	0	6	107
Total	8	221	33	26	7	8	71	4	1	17	396

In table 3, we examined the women with unmet need for family planning, using multiple response crosstabs analysis to show the reasons they were not using any contraceptives (n=221). The majority, 115 (52.0%) of the women preferred natural method but lacked the skills and knowledge needed to use it, followed by 41 (18.6%) who experienced headache whenever they used hormonal/device contraceptives, and 37 (16.7 %) that experienced excessive bleeding whenever hormonal/device contraceptives were utilized. Also, 36 (16.3%) experienced weight gain, 31 (14.0%) experienced backache, 27 (12.7%) experienced hypertension, and 16 (7.2%) experienced pelvic pain whenever hormonal/device contraceptives were utilized. Concerns such as lack of partner support, lack of effectiveness, non-affordability, unavailability as well as religious/cultural ideology were reported by

10(4.5%), 10(4.5%), 6(2.7%), 9(4.1%) and 12(5.2%) participants, respectively. The cross tabulation shows the relationship between reasons women were not using any contraceptive and their age range. The high proportion of the women that preferred natural method but lacked the skills and knowledge needed to use it, falls within the age range of 20-39, the high proportion of women who experienced headache whenever they used hormonal/device contraceptives, falls within the age range of 20-29, the high proportion of women who experienced excessive bleeding whenever hormonal/device contraceptives were utilized were between 25-29 and 35-39 years. Also, for those who experienced weight gain, the high proportion falls within age range 25-39, while those who experienced backache and hypertension, were within the age range of 25-29 years.

Table 3: Multiple response cross tabulation analysis showing reasons for not using any contraceptives among women of reproductive age (n=221)

	Reasons	Responses n (% of cases)	Women of Reproductive Age						
			15-19	20-24	25-29	30-34	35-39	40-44	45-49
1	Prefer natural method but lack skills and knowledge needed to use it	115 (52.0)	5	58	24	11	11	6	0
2	Experienced weight gain whenever hormonal/device contraceptives were utilized	36 (16.3)	1	6	10	8	9	2	0
3	Experienced hypertension whenever hormonal/device contraceptives were utilized	27 (12.2)	0	5	8	5	6	3	0
4	Experienced headache whenever hormonal/device contraceptives were utilized	41 (18.6)	2	15	12	4	4	4	0
5	Experienced backache whenever hormonal/device contraceptives were utilized	31 (14.0)	2	6	11	6	5	1	0
6	Experienced deep venous thrombosis whenever hormonal/device contraceptives were utilized	3 (1.4)	0	1	0	0	1	0	1
7	Experienced excessive bleeding whenever hormonal/device contraceptives were utilized	37 (16.7)	1	5	13	5	10	3	0
8	Experienced pelvic pain whenever hormonal/device contraceptives were utilized	16 (7.2)	0	4	3	4	4	1	0
9	Religion/culture does not support use of hormonal/devices contraceptives	12 (5.4)	1	3	4	1	3	0	0
10	Lack of partner support	10 (4.5)	2	2	4	1	1	0	0
11	Lack of effectiveness of the previous contraceptive used	10 (4.5)	0	1	3	3	1	2	0
12	It was quite expensive (non- affordable)	6 (2.7)	0	0	3	2	0	1	0
13	Not always available/easily accessible	9 (4.1)	1	0	4	1	2	1	0
14	Abstinence	6 (2.7)	0	3	1	2	0	0	0
15	Delayed Fertility	1 (0.5)	0	0	0	1	0	0	0
	Total	360 (162.9)							

Table 4 shows the frequency, percentage scores and Chi-square analysis of baseline level of knowledge and attitude towards symptothermal method (STM) as a strategy to ameliorate unmet need for family planning among women not using any

contraceptive (n = 221). The majority, 194 (87.7%) of the participants did not have knowledge of symptothermal method (STM) of natural family planning while 27 (12.3%) had knowledge of STM. At Chi-square level, the null hypothesis that

participants do not have significant knowledge of STM was accepted (cal. X^2 val. 2.853; p-value 0.808 @ df 6). On attitude towards STM, most, 215 (97.0%) of the participants had positive attitude while 6 (3%) did not have positive attitude towards STM, which was established at (cal. X^2 val. 43.351; p-value, 0.002 @ df 6). This implies that women have positive attitude towards STM, hence the null hypothesis was rejected.

DISCUSSION

In this study, we assessed the baseline level of knowledge and attitude of women towards sympto-thermal method of natural family planning as a strategy to ameliorate unmet need for family planning in Kisumu County, Kenya. Of the total 396 women of reproductive age who participated in the study, 221(55.8%) of these women were not using any contraceptive, with the majority, 83 (37.6%) of them, within the age bracket of 20-24 years. With respect to association of marital status and women not using any contraceptives, most, 161 (72.9%) of married participants and 56 (25.3%) singles were not using any contraceptive. Also, majority of the participants, 209 (94.6%) were Christians while 12 (5.4%) of the participants were Muslims who were not using any contraceptive. Regarding occupation, participants not using any contraceptive were unemployed, 70 (31.7%), housewives, 67 (30.3%), workers, 53 (23.9%) and trainees/students, 31 (14.0%). On educational level, women not using any contraceptive on secondary level were 115 (52.0%), tertiary level were 60 (27.1%) and primary level were 46 (20.8%). This is supported by previous studies which reported that socio-demographic factors such as age, marital status, educational level, religion and occupation have the abilities to influence the attitudes and behaviors' of individuals towards uptake of family planning methods [26].

One of the reasons for the non-usage of any contraceptive by majority, 115 (52.0%) of the women, was due to their preference for

natural method of family planning but lacked the skills and knowledge needed to do so, even though they have positive attitudes towards wanting to use it. In choosing contraceptives, majority of the respondents in a previous study strongly agreed that no chemicals or hormones were important considerations when making decision on the choice of contraceptives, which therefore infers that most women/couples prefer natural methods of family planning [18]. This is also supported by the report of a previous study that though STM is available, most women are not utilizing it because they lack the knowledge, skills/training needed to do so [13]. Other reasons identified were experience of side effects associated with use of hormonal/devices contraceptives which include weight gain experienced by 36 (16.3%), headache, 41 (18.6 %), excessive bleeding, 37 (16.7%), hypertension, 27 (12.7%, and backache, 31 (14.6%), among others. This is in agreement with previous study which reported hormonal/devices contraceptive health related complaints among women of reproductive age ranging from hypertension, deep vein thrombosis, inaccessibility to appropriate, effective and timely contraceptives [25]. Relationship between reasons women were not using any contraceptive and their age range was also established. The high proportion of the women that preferred natural method but lacked the skills and knowledge needed to use it, falls within the age range of 20-39, the high proportion of women who experienced headache whenever they used hormonal/device contraceptives, falls within the age range of 20-29, the high proportion of those who experienced excessive bleeding whenever hormonal/device contraceptives were utilized were between 25-29 and 35-39 years. Also, for women who experienced weight gain, the high proportion falls within the age range of 25-39, while those who experienced backache and hypertension, were within the age range of 25-29 years.

Table 4: Frequency, percentage scores and Chi-square analysis on level of knowledge and attitude towards symptothermal method as a strategy to ameliorate unmet need for family planning among women of reproductive age (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49) not using any contraceptive (n= 221)

S/N	Knowledge of STM	Yes (%)	No (%)	Dec	Cal. χ^2 val	p-value
1	Have you heard about symptothermal method (STM) of natural family planning?	60 (27.1)	161 (72.9)	VL	3.307	0.769
2	Do you know how it works?	3 (1.4)	218 (98.6)	VL	2.196	0.901
3	Do you know STM does not have side effects?	33 (14.9)	188 (85.1)	VL	3.007	0.808
4	Do you know STM is highly effective in preventing pregnancy?	29 (13.1)	192 (86.9)	VL	5.853	0.404
5	Are you aware you do not need medical supervision when using STM?	39 (17.6)	182 (82.4)	VL	2.316	0.888
6	Do you know STM is affordable and readily accessible anywhere, anytime?	42 (19.0)	179 (81.0)	VL	4.094	0.664
7	Are you aware that STM is not based on arithmetic calculation like calendar method of natural family planning?	34 (15.4)	187 (84.6)	VL	4.285	0.638
8	Are you aware that STM can be used irrespective of your menstrual cycle length, whether short, average or long?	19 (8.6)	202 (91.4)	VL	1.635	0.950
9	Do you know that STM will enable you to identify your fertile and infertile days in your menstrual cycle?	20 (9.0)	201 (91.0)	VL	1.442	0.963
10	Are you aware that you need to check your cervical mucus secretion each day to identify your fertile and infertile days?	10 (4.5)	211 (95.5)	VL	1.623	0.951
11	Do you know STM involves taking your body temperature every morning on waking up to identify your fertile and infertile days to pinpoint ovulation?	10 (4.5)	211 (95.5)	VL	1.623	0.951
	Average Score	27(12.3)	194 (87.7)	VL	2.853	0.808
	Attitude Towards STM					
12	Do you have need and would like to learn how to use STM in preventing pregnancy naturally?	215 (97.3)	6 (2.7)	VH	40.388	0.001***
13	Will your partner be supportive of your decision to learn about STM?	212 (95.9)	9 (4.1)	VH	28.612	0.009**
14	Would you like to learn about the symptoms associated with your fertile and infertile days?	217 (98.2)	4 (1.8)	VH	59.693	0.001***
15	Are you willing to learn how to check your cervical mucus secretion to identify your fertile and infertile days?	215 (97.3)	6 (2.7)	VH	40.388	0.001***
16	Are you willing to learn how to take your body temperature on waking up each morning to pinpoint ovulation?	216 (97.7)	5 (2.3)	VH	47.768	0.001***
17	Will STM use suit your religious and cultural belief?	215(97.3)	6 (2.7)	VH	43.257	0.001***
	Average score	215(97%)	6 (3%)	VH	43.351	0.002

Very low= VL, very high= VH, statistically significant at p-value ≤ 0.05 ; **p-value ≤ 0.01 ; ***p-value ≤ 0.001 ; Confidence Interval (CI) of 95%; df = 6

The findings from this study revealed that majority, 194 (87.7%) of the participants did not have knowledge of symptothermal method (STM) of natural family planning. This was established at Chi-square level, hence the null hypothesis that participants do not have significant knowledge of STM was accepted (cal. X^2 val. 2.853; p-value 0.808 @ df 6). On attitude towards STM, most, 215 (97.0%) of the participants had positive attitude towards STM, which was established at (cal. X^2 val. 43.351; p-value 0.002 @ df 6). This inferred that women have significant positive attitude towards STM, hence the null hypothesis was rejected. A previous study conducted in a developed country on STM established that most women have the knowledge that STM is natural, does not involve pills or devices and have no side effects [16]. However, the findings from our study show that majority of the participants did not have significant knowledge of STM.

CONCLUSION

This study is the first to investigate the reasons for non-usage of STM to prevent unintended pregnancy and complications of device/hormonal contraceptives among women with unmet need for family planning in Kisumu County. While the findings from this study confirmed that most women do not have knowledge of STM, majority showed positive attitude towards wanting to use STM, which led to an intervention study on STM in Kisumu County, Kenya.

Declaration by Authors

Ethical Approval: Approved

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